

***Mythimna subplacida* (Sugi) (Lepidoptera, Noctuidae, Hadeninae) new to the fauna of Japan**Shin-ichi YOSHIMATSU<sup>1)\*</sup>, Yoshihiro YANAGITA<sup>2)</sup> and Katsumi SHIBAHARA<sup>3)</sup><sup>1)</sup> Natural Resources Inventory Center, National Institute for Agro-Environmental Sciences, Kannondai 3-1-3, Tsukuba, Ibaraki, 305-8604 Japan<sup>2)</sup> 5-22-402, Kohnandai 4 chome, Kohnan-ku, Yokohama, Kanagawa, 234-0054 Japan<sup>3)</sup> High school house 102, Hitakatsu 309, Kamitsushima-cho, Tsushima, Nagasaki, 817-1701 Japan

**Abstract** *Mythimna subplacida* (Sugi, 1977) known from Taiwan and China is recorded from Japan (Tsushima Is., Nagasaki Pref.) for the first time on the basis of three male specimens collected in 2011. The adult and male genitalia of the holotype are illustrated again in comparison with those of the specimens collected in Japan.

**Key words** Japan, male genitalia, *Mythimna subplacida*, Tsushima Is.

**Introduction**

Hitherto 44 species of the genus *Mythimna* have been recorded from Japan and they are illustrated in “The standard of Moths in Japan 2” by Yoshimatsu (2011). However, an unknown additional species of the genus *Mythimna* was collected in the Tsushima Is. in 2011 by the second and third authors. After careful examination of the external features and male genital characters, we identified it as *Mythimna subplacida* (Sugi, 1977) known from Taiwan and China. The adults and male genitalia are illustrated with those of the holotype for reference.

**Diagnosis*****Mythimna subplacida* (Sugi) (Figs 1, 2)**

*Aletia subplacida* Sugi, 1977, *Tyô Ga* **28**(2): 56, figs 2, 6, 7, 12.

*Aletia subplacida*: Poole, 1989, *Lepid. Cat. (New Series)* **118** Noctuidae. Part 1: 65; Chang, 1991, *Illust. Moths Taiwan* (5): 151, 152, 330; Plante, 1992, *Tyô Ga* **43**(3): 219; Sugi, 1992, In Heppner & Inoue, *Lepid. Taiwan* **1**(2): 199.

*Mythimna (Mythimna) subplacida*: Yoshimatsu, S. 1994, *Bull. Nat. Inst. Agro-Environ. Sci., Tsukuba* **11**: 120-123, figs 12, 13, 134F; Hreblay et al., 1998, *Esperiana* **6**: 383, figs 4, 15, 28, 37, pls 7, 8.

Male (Fig. 1). For descriptions, see Sugi (1977) and Yoshimatsu (1994). Length of forewing. 17.8–20.6 mm. The first author found the holotype of this species in the S. Sugi Collection recently donated to NIAES, Tsukuba. The forewing of the holotype (Fig. 1A) is ochreous white with fuscous dots on the veins on the antemedial and postmedial lines, and the outer area of the reniform stigma

is slightly tinged with fuscous. By contrast, that of the Japanese specimens is dark ochreous white with fuscous dots on the veins on the antemedial and postmedial lines, and the outer area of the reniform stigma and the cell, apart from the orbicular stigma, are strongly tinged with fuscous as in Fig. 1C, D. However both patterns of the forewing maculation occur in the Taiwanese specimens treated in this paper. Externally this species is similar to *M. placida* Butler known from Japan, Korea and China, and *M. bani* (Sugi) known from Japan, Korea, Taiwan and China. Although not distributed in Japan, *M. legraini* (Plante), described from India, is also a similar species.

Male genitalia (Fig. 2). For descriptions, see Sugi (1977) and Yoshimatsu (1994). The male genitalia of *M. subplacida*, *M. placida* and *M. bani* are distinguishable by the characteristics of harpe and ampulla, as illustrated by Sugi (1977) and Yoshimatsu (1994). The dorsal process of the harpe of *M. legraini* is apparently shorter than that of *M. subplacida*, as illustrated by Plante (1992).

The male genitalia of the specimen collected in Japan illustrated in Fig. 2B were observed on a cavity slide in glycerin and not flattened, and as a result the dorsal margin of the cucullus appears more strongly curved than that of the holotype illustrated in Fig. 2A. The same is true of the specimen illustrated by Yoshimatsu (1994), as the genitalia were also observed and illustrated in a dish tray in 70-80% ethanol without flattening. As the male genitalia of the holotype illustrated in Fig. 2A were strongly pressed between the slide and cover slip, the dorsal portion of the cucullus appears almost straight rather than curved.

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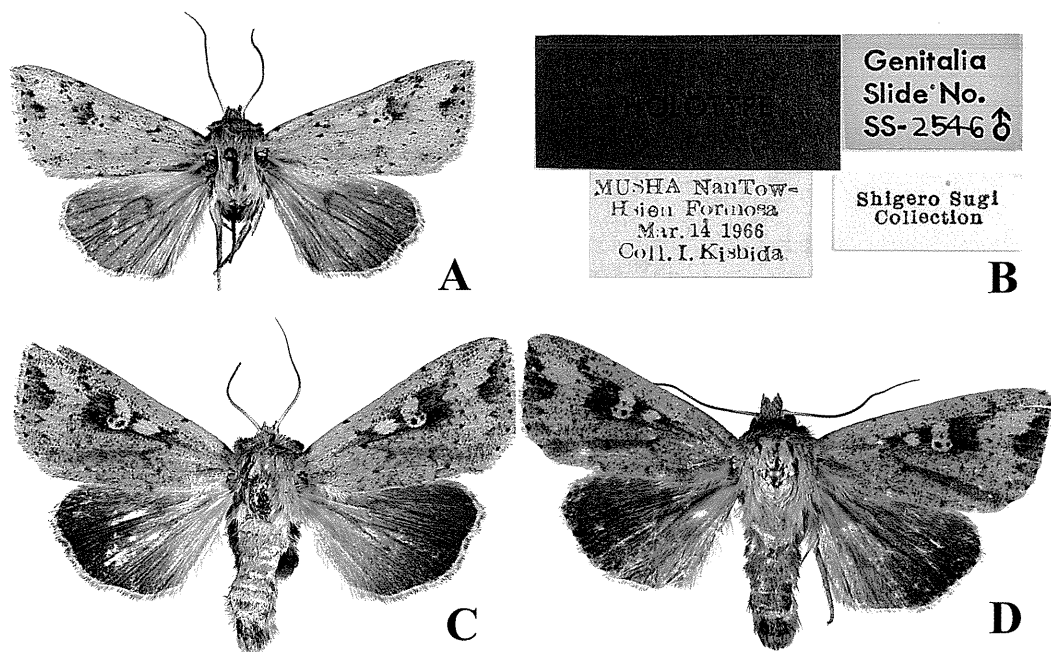


Fig. 1. Adults of *Mythimna subplacida* (Sugi, 1977) and attached labels. A: holotype, ♂. B: labels attached to the holotype. C: Kankoku-tenboudai, Waniura, Kamitsushima-cho, Tsushima-shi, Nagasaki Pref., 24. ix. 2011, Y. Yanagita, ♂. D: Miyama, Sago, Kamiagata-cho, Tsushima-shi, Nagasaki Pref., 25. ix. 2011, K. Shibahara, ♂.

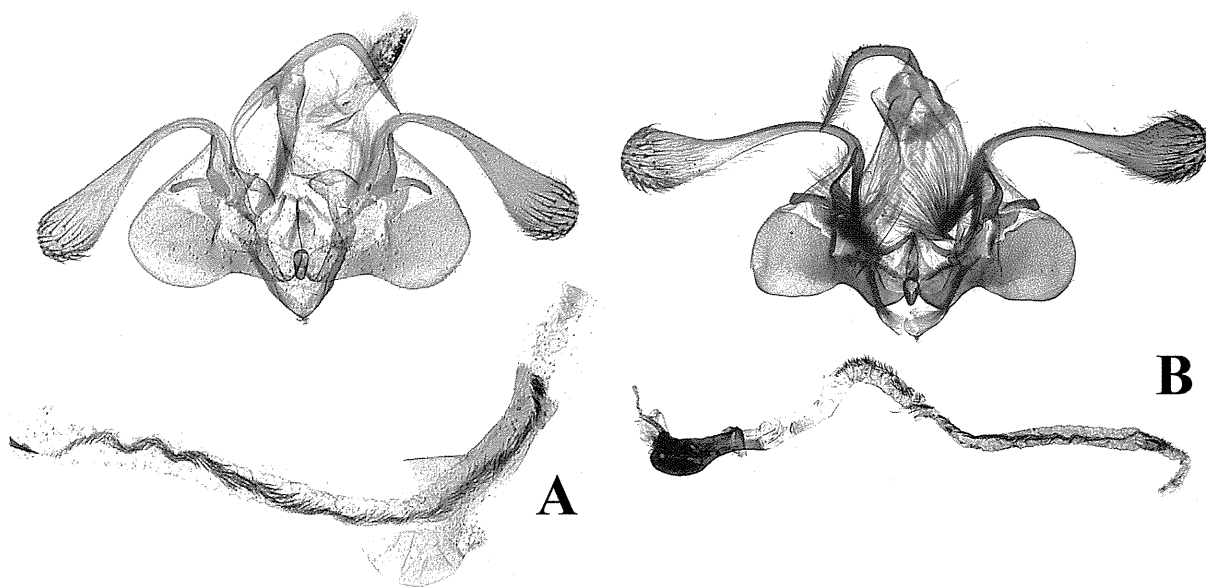


Fig. 2. Male genitalia of *Mythimna subplacida* (Sugi, 1977). A: holotype, ring and valvae in ventral view and phallus in right lateral view. B: Kankoku-tenboudai, Waniura, Kamitsushima-cho, Tsushima-shi, Nagasaki Pref., 24. ix. 2011, Y. Yanagita, ring and valvae in ventral view and phallus in left lateral view.

Specimens examined. Holotype. “♂, Musha, Nantow-Hsien, Formosa, 14. iii. 1966, Coll. I. Kishida, Genitalia slide No. SS-2546 (National Science Museum [NSM])”.

[Japan] 1 ♂, Hitakatsu, Kamitsushima-cho, Tsushima-shi, Nagasaki Pref., 8. vi. 2011, K. Shibahara; 1 ♂, Kankoku-tenboudai, Waniura, Kamitsushima-cho, Tsushima-shi, Nagasaki Pref., 24. ix. 2011, Y. Yanagita; 1 ♂, Miyama, Sago, Kamiagata-cho, Tsushima-shi, Nagasaki Pref., 25. ix. 2011, K. Shibahara (National Institute for Agro-Environmental Sciences [NIAES]). [Taiwan] Paratypes. “1 ♀, Alishan 2200 m, Chiayi Hsien, Taiwan, 9–11. vii. 1964, H. Inoue”; “1 ♀, Fenchihu 1600 m, Chiayi Hsien, Taiwan, 12–13. vii. 1964, H. Inoue”; “1 ♂, Musha, Taichung Hsien, Taiwan, 21. iii. 1967, T. Miyashita”; “1 ♀, Yangminshan Taiwan, 6. v. 1970, S. Sakurai”; “1 ♂, Wushe, C. Formosa Taiwan, J. Okura” (Sugi Collection, NIAES). Other specimens examined. 20 ♂ 5 ♀ (Yoshimatsu Collection, NIAES), detailed data see Yoshimatsu (1994); “1 ♀, Lishan, Taichung County, Taiwan, 22. x. 1976, Sk. Yamane”; “2 ♂, Lushan spa (Hotso), Nantou Hsien, Taiwan, 14–16. iii. 1978, T. Tanabe”; “1 ♀, Kentin Park, Pingtung, Taiwan, 26–28. iii. 1978, T. Tanabe”; “4 ♂ 1 ♀, 1200 m Lushan spa, Nantou Hsien, Taiwan, 27–29. vii. 1983, S. Sugi” (Sugi Collection, NIAES).

Distribution. Japan (Tsushima Is.); Taiwan, China. New to Japan.

Remarks. Sugi (1977) stated that the holotype would be deposited in the collection of National Science Museum, Tokyo. The first author will soon return it to the insect museum of NSM, which has just recently moved from Tokyo to Tsukuba. The date of the paratype collected by Mr S. Sakurai given as “6. iii. 1970” by Sugi (1977), is a mistake: the true date on the label is 6 May 1970 as recorded in “the specimens examined” above.

Hreblay *et al.* (1998) also recorded this species from China based on two male specimens from Prov. Hunan and Prov. Kwangtung.

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## 摘 要

日本から初めて記録される *Mythimna subplacida* (新称: タイワンクロシタキヨトウ) (鱗翅目, ヤガ科, ヨトウガ亜科) (吉松慎一・柳田慶浩・柴原克己)

日本産の *Mythimna* 属 (キヨトウ) は, 吉松 (2011) により日本産蛾類標準図鑑で 44 種が記録され, 図示および解説されている。ところが, この図鑑には掲載されていないキヨトウの不明種 3 種が対馬より 2011 年 6 月および 9 月に採集された。これらの標本の交尾器を詳しく調べたところ, 台湾から Sugi (1977) が記載した *Mythimna subplacida* と同定することができた。本論文で図示した日本産の標本 (Fig. 1C, D) の前翅は, 台湾で採集されたホロタイプ (Fig. 1A) の前翅に比べて全体的に黒色部が多い (特に腎状紋の外側と環状紋を除く中室の黒色部が目立つ) が, 今回供試した他の台湾産の標本にも日本産と同程度に黒色部が多い個体が含まれており, 雄交尾器にも差異が認められなかったので個体変異と判断した。本種は, また中国湖南省および広東省からも記録されている。今後の同定の参考のため, 日本で今回採集された標本と台湾産のホロタイプの雄交尾器についても図示した。

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